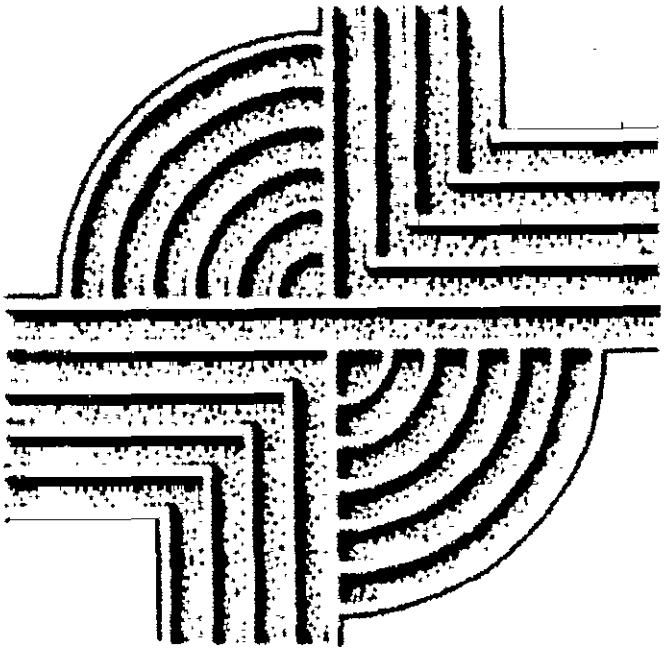
ARCHAEOLOGICAL SURVEY OF THE PROPOSED CAINHOY TRANSMISSION LINE, BERKELEY COUNTY, SOUTH CAROLINA



CHICORA RESEARCH CONTRIBUTION 281

ARCHAEOLOGICAL SURVEY OF THE PROPOSED CAINHOY TRANSMISSION LINE, BERKELEY COUNTY, SOUTH CAROLINA

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ABSTRACT

This study reports on an intensive archaeological survey of a 400-foot long transmission line corridor for Central Electric Power Cooperative. The survey was situated in the Charity Church area of Berkeley County, between the Cooper River to the west and French Quarter Creek to the east, off Clements Ferry Road. The corridor runs from an existing Santee Cooper substation on the south side of Moreland Road to a new substation being constructed by Berkeley Power Cooperative on the opposite side of the road. This study incorporated only the transmission line linking these two substations.

The project corridor includes primarily low, wet soils crossing through a wooded area adjacent to the Santee Cooper substation. At the time of the survey the corridor was clearly marked, with only the central survey line cut.

The archaeological survey consisted of shovel testing in the center of the corridor. Because of the short corridor length, testing was conducted at 50-foot intervals, rather than the normal 100-foot spacing. All fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study.

The proposed corridor is in an area of extensive previous investigation and is within the proposed Cooper River Historic District. This district, encompassing about 80,000 acres, is being nominated by Historic Charleston Foundation and is currently in a draft form. Nevertheless, the S.C. State Historic Preservation Office has determined that the district is eligible for inclusion on the National Register. In addition, there are a number of previously recorded archaeological sites in the general project area, although there were no archaeological or historical sites recorded within 500 feet of the proposed transmission line.

No archaeological or historical sites were identified during this survey and no additional cultural resource management activities are recommended.

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ACKNOWLEDGMENTS

I want to thank Mr. Tom Covington and Ms. Autumn Perkins of our staff who were responsible for assembling the background information for this project. In addition, much previous information had been collected by Mr. Todd Hejlik and Ms. Suzanne Coyle, previously working with us. I appreciate their dedication and thoroughness.

In addition, I appreciate the assistance and cooperation of the staffs of the S.C. Department of Archives and Historic, particularly Dr. Tracy Power, and the S. C. Institute of Archaeology and Anthropology, particularly Mr. Keith Derting. Both went out of their way to make our job easier and the final product more complete and useful.

Finally, I want to thank Central Electric Power Cooperative for their concern regarding the cultural resources of South Carolina, as well as their support of Chicora Foundation.

INTRODUCTION

Project Background

This work was conducted for Mr. Richard Kidd, Central Electric Power Cooperative, by Dr. Michael Trinkley, with assistance from Ms. Rachel Campo, of Chicora Foundation. The project involves the construction of a transmission line linking the existing Santee Cooper Cainhoy Substation with a new facility, currently under construction by Berkeley County Power Cooperative. This new line, identified as the Cainhoy 115kV transmission line, is approximately 400 feet in length.

The project is situated in southwest Berkeley County, off Clements Ferry Road (S-98), between the Cooper River to the west and French Quarter Creek to the east (Figure 1).

The existing substation is situated on the south side of Moreland Road about 1,500 feet west of Moreland Road's intersection with Clements Ferry Road (S-98). About 500 feet further west, on the north side of Moreland Road, is a newly constructed Santee Cooper microwave tower. Directly across Moreland Road from the Santee Cooper substation is the new substation, currently graded, fenced, and under construction. The Central Electric corridor runs from the existing station, along its eastern side, crossing Moreland Road, and terminating at the new substation (Figure 2).

We originally conducted a project assessment of the new line, identifying that it was situated in the proposed Cooper River Historic District (see Trinkley 1999 for an overview of this area) and on this basis recommended that an intensive archaeological survey be conducted. Central Electric Power Cooperative concurred with this recommendation and authorized a survey in early November. The field investigations were conducted by Dr. Michael Trinkley and Ms. Rachel Campo on November 19. A total of 4 person hours were spent on-site conducting the survey.

Natural Environment

Berkeley County is situated in the lower Atlantic Coastal Plain of South Carolina. Containing about 1,100 square miles, it is bordered by Georgetown County to the northeast, Charleston County to the southeast and southwest, Dorchester County to the west, Orangeburg County to the northwest, and Clarendon and Williamsburg counties to the north.

The topography of the country is characterized by subtle undulation characteristic of beach ridge plains. The elevations range from sea level to approximately 105 feet above mean sea level (AMSL). In the vicinity of the study area the elevations range from about 5 to 50 feet AMSL. The topography is generally level although somewhat more rolling near the swamp drainages.

Berkeley is drained by three significant river systems: the Santee, Wando, and Cooper rivers. The Santee has a large freshwater discharge and forms the northern boundary with neighboring Georgetown County. The Wando is a coastal river, being dominated by tidal action. The Cooper River, which flows through the center of the County, was also originally a tidal river, but it has been modified by a large volume of fresh water diverted from the Santee through Lakes Marion and Moultrie. In addition, there are a number of broad, low-gradient interior drainages that are present either as extensions of tidal streams or flooded bays and swales.

Significant drainages in the study area include the Back, Cooper, and East Cooper rivers, and the Grove, Flag, French Quarter, and Freshing Lead creeks. In addition, the area includes a number of marsh areas, some associated with large rivers or creeks

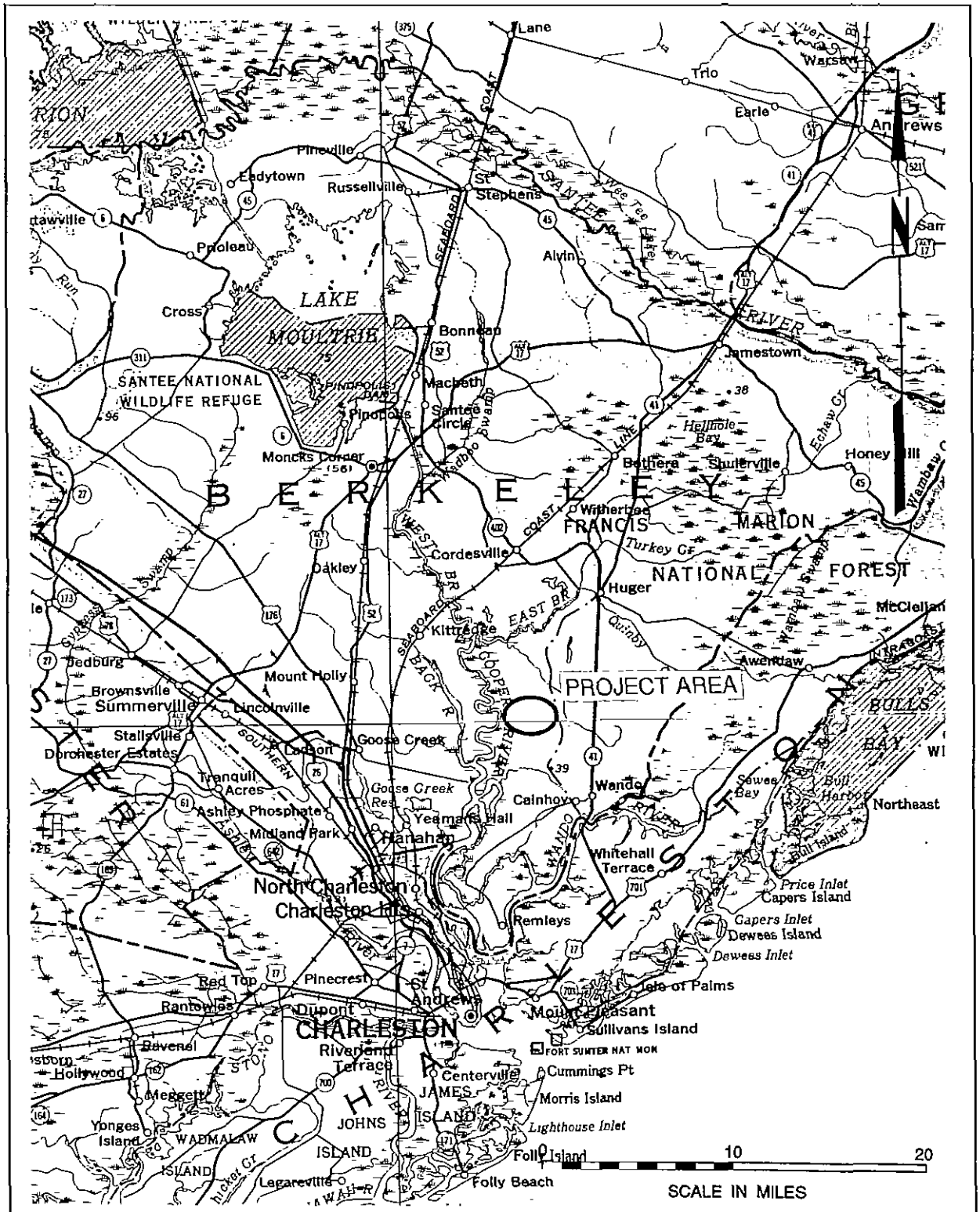

Figure 1. Project vicinity in Berkeley County, South Carolina (basemap is USGS South Carolina 1:500,000).

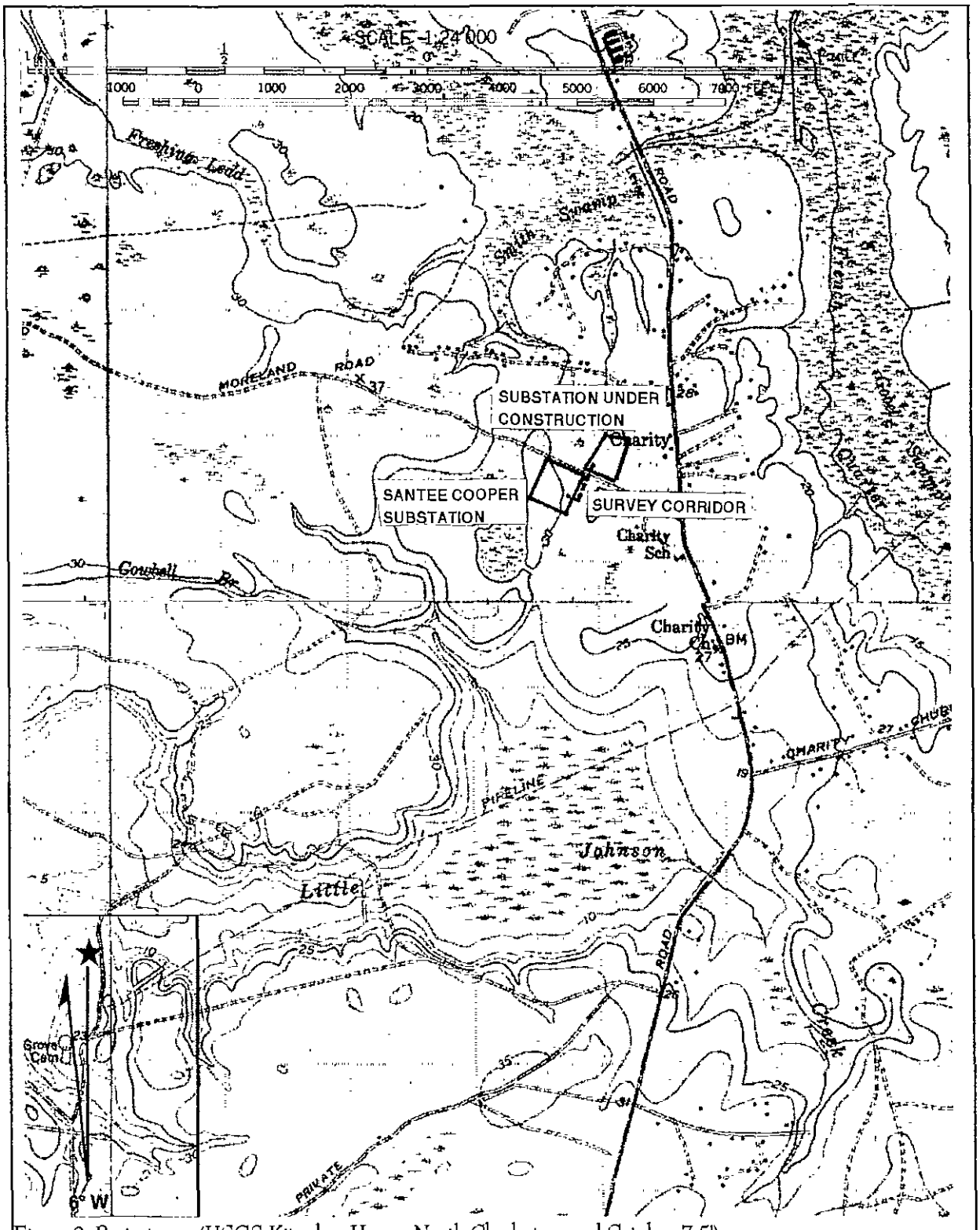

Figure 2. Project area (USGS Kitredge, Huger, North Charleston, and Cainhoy 7.5').

and others simply found in low interior swales or drainages.

As previously mentioned, Berkeley County is made up of one broad physiographic area, often called the lower Atlantic Coastal Plain or the Atlantic Coast Flatwoods. The surface soils are almost entirely sedimentary and were transported into the area from elsewhere. The geology of Berkeley County is characteristic of the region; the formations covering the surface date from the Pleistocene and include sands, clays, gravels, and phosphates.

Most of the county is covered with broad areas of nearly level to gently sloping loamy to clayey soils. On the flood plains these soils are usually subjected to at least occasional, and often frequent, flooding. In fact, Long (1980:1) reveals that fully 95% of the soils in the county have excess water in their profiles. Major soil series include Meggett, Goldsboro, Bonneau, Craven, Wahee, Duplin, Bethera, and Tawcaw. The soils in lower Berkeley are part of the Wahee-Duplin-Lenoir association. They tend to be somewhat poorly to moderately well drained and have a loamy surface layer with a clayey subsoil.

In the project area the dominant soil is the Duplin series. These are nearly level and formed in clayey Coastal Plain sediments. The surface soils are grayish brown sand loams about 0.6 foot in depth, overlying a yellowish brown clay loam. Although drainage is typically good, these soils exhibit a high water table (within about 2-feet of the surface) from December through March. During this study the soils were wet and were probably affected by the proximity of several large pockets of Meggett soils. These soils are poorly drained and have a dark gray surface soil overlying a dark gray, reduced subsoil (Long 1980:17, 22-23, Map 89).

The proposed line crosses about 175 feet of Meggett soils, some marked as wetlands, before entering Duplin soils for the remainder of the corridor.

Berkeley County has a subtropical climate, characterized by warm summers, mild winters, and adequate precipitation fairly evenly spread throughout the year. Except in the summer, when maritime tropical air controls the climate of the area, the daily weather patterns are controlled by west to east moving pressure systems and associated fronts.

Yearly precipitation averages 47 inches, but ranges from 39 to 55 inches. The growing season, from April to September, receives an average of 31 inches or about 66% of the yearly total. The average length of the freeze-free growing season is approximately 260 days, although frosts can occur as early as October 26 and as late as April 15 (Long 1980:46).

Mills remarked in 1826 that Carolina was similar to European climates, lying at a similar latitude. He noted that:

> in comparing the climate of South Carolina, with similar climates in Europe, we find it lying under the same atmospheric influences with Aix, Rochelle, Montpelier, Lyons, Bordeaux, and other parts of France; with Milan, Turin, Padua, Mantua, and other parts of Italy (Mills 1972 [1826]:133).

The coastal region is a moderately high risk zone for tropical storms, with 169 hurricanes being documented from 1686 to 1972 (0.59 per year) (Mathews et al. 1980:56). One of the most devastating in the eighteenth century was the hurricane of September 15, 1752. One report listed 92 people drowned, although the death toll, especially among the African American slaves was likely much higher. The storm also had considerable long-term effects and Calhoun notes that:

> the destruction of trees was severe; one plantation owner's loss was assessed at $50,000 and many of those trees which survived were "heart-shaken," and unfit for use. Crops were even more damaged as the storm followed a severe drought. It was necessary to enact laws to regulate the exportation and sale of corn, "Peafe," and small rice, so that "the poor may be able to purchase

> Provisions at a moderate Price" (Calhoun 1983:9).

Speaking of the coastal plain Braun observed that:

> the vegetation of this region is in part warm temperate-subtropical, in part distinctively coastal plain, and in part temperate deciduous. It is made up of widely different forest communities - coniferous, mixed coniferous and hardwood, deciduous hardwood, and mixed deciduous and broad-leaved evergreen hardwood - interrupted here and there by swamps, bogs, and prairies. The large number of unlike communities is related to the diverse environmental conditions of the region (Braun 1974:282)

Indeed, an examination of the region around Berkeley County reveals tremendous diversity. One detailed study revealed a mosaic including the oak-hickory-pine forest common to upland areas, oak-gum-bald cypress forest typical of the southern floodplains, pine forests found in mesic to xeric upland sites, mesophytic broadleaved forests on more mesic slope sites, old rice fields, and a variety of swamp forests such as the tupelo-cypress, low hardwood, and ridge hardwoods (Federal Power Commission 1977). All of these forest types have different dominants and different understory vegetation (see Barry 1980).

Figure 3. View of the project corridor from Moreland Road, looking southwest.

In the project area the corridor consisted primarily of pine with a dense understory. There is evidence that the area has been logged at some time in the past, causing extensive mounding and rutting (Figure 3).

Prehistoric and Historic Synthesis

The Prehistoric

The Paleo-Indian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points, side scrapers, end scrapers; and drills (Coe 1964; Michie 1977; Williams 1968). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124).

Unfortunately, little is known about Paleo-Indian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleo-Indian groups were at a band level of

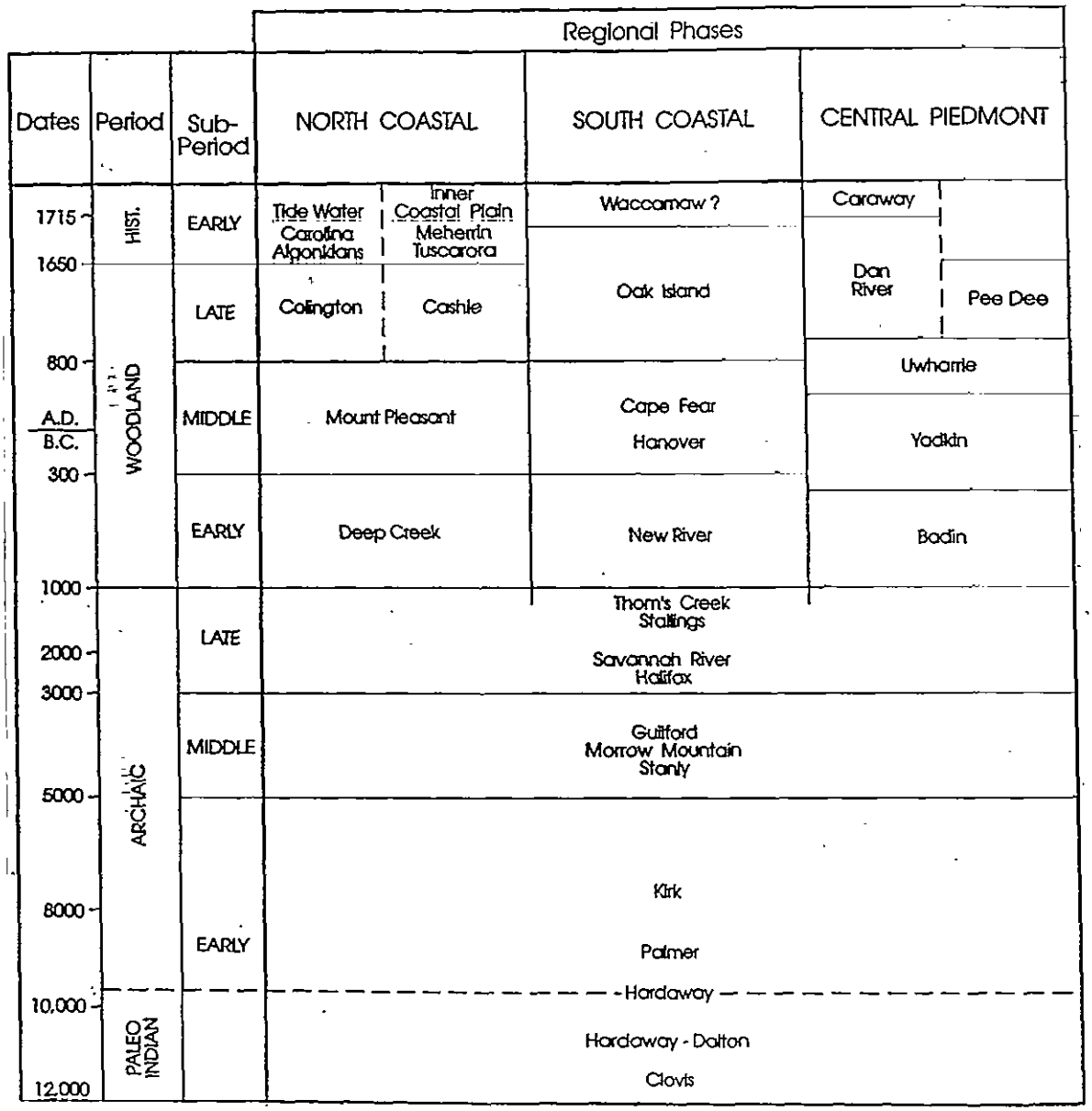

Figure 4. Cultural periods along the coast of South Carolina.

society (see Service 1966), were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleo-Indian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited mammal. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with little modification to the South Carolina coastal plain and piedmont. Archaic period assemblages, exemplified by corner-notched and broad-stem projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

In the Coastal Plain of the South Carolina there is an increase in the quantity of Early Archaic remains, probably associated with an increase in population and associated increase in the intensity of occupation. While Hardaway and Dalton points are typically found as isolated specimens along riverine environments, remains from the following Palmer phase are not only more common, but are also found in both riverine and interriverine settings. Kirks are likewise common in the coastal plain (Goodyear et al. 1979).

The two primary Middle Archaic phases found in the coastal plain are the Morrow Mountain and Guilford (the Stanly and Halifax complexes identified by Coe are rarely encountered). Our best information on the Middle Woodland comes from sites investigated west of the Appalachian Mountains, such as the work in the Little Tennessee River Valley. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and South Carolina, where axes, choppers, and ground and polished stone tools are very rare.

The Late Archaic is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued the intensive exploitation of the uplands much like earlier Archaic groups. The bulk of our data for this period, however, comes from work in the Uwharrie region of North Carolina.

The Woodland period begins by definition with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast (the introduction of pottery, and hence the beginning of the Woodland period, occurs much later in the Piedmont of South Carolina). It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings (fiber-tempered) pottery (see Figure 4 for a synopsis of Woodland phases and pottery designations). The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish.

Like the Stallings settlement pattern, Thom's Creek sites are found in a variety of environmental zones and take on several forms. Thom's Creek sites are found throughout the South Carolina Coastal Zone, Coastal Plain, and up to the Fall Line. The sites are found into the North Carolina Coastal Plain, but do not appear to extend southward into Georgia.

In the Coastal Plain drainage of the Savannah River there is a change of settlement, and probably subsistence, away from the riverine focus found in the Stallings Phase (Hanson 1982:13; Stoltman 1974:235-236). Thom's Creek sites are more commonly found in the upland areas and lack evidence of intensive shellfish collection. In the Coastal Zone large, irregular shell middens, small, sparse shell middens; and large "shell rings" are found in the Thom's Creek settlement system.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface

treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland, sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Coastal Plain, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1980b). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96-98).

Throughout much of the Coastal Zone and Coastal Plain north of Charleston, a somewhat different cultural manifestation is observed, related to the "Northern Tradition" (e.g., Caldwell 1958). This recently identified assemblage has been termed Deep Creek and was first identified from northern North Carolina sites (Phelps 1983). The Deep Creek assemblage is characterized by pottery with medium to coarse sand inclusions and surface treatments of cord marking, fabric impressing, simple stamping, and net impressing. Much of this material has been previously designated as the Middle Woodland "Cape Fear" pottery originally typed by South (1976). The Deep Creek wares date from about 1000 B.C. to A.D. 1 in North Carolina, but may date later in South Carolina. The Deep Creek settlement and subsistence systems are poorly known, but appear to be very similar to those identified with the Deptford phase.

The Deep Creek assemblage strongly resembles Deptford both typologically and temporally. It appears this northern tradition of cord and fabric impressions was introduced and gradually accepted by indigenous South Carolina populations. During this time some groups continued making only the older carved paddle-stamped pottery, while others mixed the two styles, and still others (and later all) made exclusively cord and fabric stamped wares.

The Middle Woodland in South Carolina is characterized by a pattern of settlement mobility and short-term occupation. On the southern coast it is associated with the Wilmington phase, while on the northern coast it is recognized by the presence of Hanover, McClellanville or Santee, and Mount Pleasant assemblages. The best data concerning Middle Woodland Coastal Zone assemblages comes from Phelps' (1983:32-33) work in North Carolina. Associated items include a small variety of the Roanoke Large Triangular points (Coe 1964:110-111), sandstone abraders, shell pendants, polished stone gorgets, celts, and woven marsh mats. Significantly, both primary inhumations and cremations are found.

On the Coastal Plain of South Carolina, researchers are finding evidence of a Middle Woodland Yadkin assemblage, best known from Coe's work at the Doerschuk site in North Carolina (Coe 1964:25-26). Yadkin pottery is characterized by a crushed quartz temper and cord marked, fabric impressed, and linear check stamped surface treatments. The Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least A.D. 300 coexisted with this Triangular Tradition. The Yadkin series in South Carolina was first observed by Ward (1978, 1983) from the White's Creek drainage in Marlboro County, South Carolina. Since then, a large Yadkin village has been identified by DePratter at the Dunlap site (38DA66) in Darlington County, South Carolina (Chester DePratter, personal communication 1985) and Blanton et al. (1986) have excavated a small Yadkin site (38SU83) in Sumter County, South Carolina. Research at 38FL249 on the Roche Carolina tract in northern Florence County revealed an assemblage including Badin, Yadkin, and Wilmington wares (Trinkley et al. 1993:85-102). Anderson et al. (1982:299-302) offer additional typological assessments of the Yadkin wares in South Carolina.

Over the years the suggestion that Cape Fear might be replaced by such types as Deep Creek and Mount Pleasant has raised considerable controversy. Taylor, for example, rejects the use of the North Carolina types in favor of those developed by Anderson et al. (1982) from their work at Mattassee Lake in Berkeley County (Taylor 1984:80). Cable (1991) is

even less generous in his denouncement of ceramic constructs developed nearly a decade ago, also favoring adoption of the Mattassee Lake typology and chronology. This construct, recognizing five phases (Deptford I - III, McClellanville, and Santee I), uses a type variety system.

Regardless of terminology, these Middle Woodland Coastal Plain and Coastal Zone phases continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the Fall Line, shell midden sites evidence sparse shell and artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. Recent investigations at Coastal Zone sites such as 38BU747 and 38BU1214, however, have provided some evidence of worked bone and shell items at Deptford phase middens (see Trinkley 1990).

In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years (cf. Sassaman et al. 1990:14-15). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

The South Appalachian Mississippian Period (ca. A.D. 1100 to 1640) is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest phases include the Savannah and Pee Dee (A.D. 1200 to 1550).

Historic Overview

The English established the first permanent settlement in what is today South Carolina in 1670 on the west bank of the Ashley River. Like other European powers, the English were lured to "new World" for reasons other than the acquisitions of land and promotion of agriculture. The Lords Proprietors, who owned the colony until 1719-1720, intended to discover a staple crop whose marketing would provide great wealth through the mercantile system.

By 1680 the settlers of Albermarle Point had moved their village across the bay to the tip of the peninsula formed by the Ashley and Cooper rivers. This new settlement at Oyster Point would become modern-day Charleston. The move provided not only a more healthful climate and an area of better defense, but:

> the situation of this Town is so convenient for public Commerce that it rather seems to be the design of some skillful Artist than the accidental position of nature (Mathews 1954:153).

The early settlers of the Carolina colony came from other mainland colonies, England, and the European continent. But the future of Carolina was largely directed by the large number of colonists from the English West Indies. This Caribbean connection has been discussed by Waterhouse (1975), who argues that the Caribbean immigrants were largely from old families of economic and political prominence which formed the Barbados élite. Waterhouse observes that while elsewhere in the American colonies the early settled families were displaced from their established positions of power and economic superiority by newcomers, this did not occur in South Carolina. In Carolina:

> a relatively large proportion of those who, in the middle of the eighteenth century, were among the wealthier inhabitants, were descended from those families who had arrived in the colony during the first twenty years of its settlement (Waterhouse 1975:280).

This immigration turned out to be a significant factor in the stability and longevity of South Carolina's colonial élite. It also firmly established the foundations of slavery and cash crop plantations.

Many of these Barbadian immigrants settled in the Goose Creek area, forming one of the most influential political and economic groups in the colony (Stoney 1938:19). The "Goose Creek Men" included individuals such as Maurice Mathews, James Moore and John Boone. They favored increased Indian slavery, trade with the pirates or privateers that sailed the Carolina coast, and generally ignored the efforts of the Lords Proprietors to control the Colony's economic and political future. While the political power of the Goose Creek faction peaked in the 1720s, it continued to evidence considerable economic power well into the late 1740s (see Morgan 1980; Sirmans 1966).

Early agricultural experiments which involved olives, grapes, silkworms, and oranges were less than successful. While the Indian trade was profitable to many of the Carolina colonies, it did not provide the Proprietors with the wealth they were expected from the new colony. This trade was also limited since the Indian population was so dramatically reduced by European disease, the sale of alcohol, and slavery.

Cattle raising also was an easy way to exploit the region's land and resources, offering a relatively secure return for very little capital investment. Few slaves were necessary to manage the herd. The mild climate of the low country made winter forage more abundant and winter shelters unnecessary. The salt marshes on the coast, useless for other purposes, provided excellent grazing and eliminated the need to provide salt licks. More interior swamps found similar vegetation and provided a constant water supply (Coon 1972; Dunbar 1961). Production of cattle, hogs, and sheep quickly outstripped local consumption and by the early eighteenth century beef and pork were principal exports of the Colony to the West Indies (Ver Steeg 1975:114-116). This allowed the ties between Carolina and the Caribbean to remain strong, and provided essential provisions to the large scale, single crop plantations.

Rice and indigo both competed for the attention of Carolina planters. Although introduced at least by the 1690s, rice did not become a significant staple crop until the early eighteenth century. At that time it not only provided the Proprietors with the economic base the mercantile system required, but it was also to form the basis of South Carolina's plantation system -- slavery.

South Carolina's economic development during the pre-Revolutionary War period involved a complex web of interactions between slaves, planters, and merchants. By 1710 slaves were starting to be concentrated on a few, large slave-holding plantations. By the close of the eighteenth century some South Carolina plantations had a ratio of slaves to whites that was 27:1 (Morgan 1977). And by the end of the century over half of eastern South Carolina's white population held slaves. With slavery came, to many, unbelievable wealth. Coclanis notes that:

> on the eve of the American Revolution, the white population of the low country was by far the richest single group in British North America. With the area's wealth based largely on the expropriation by whites of the golden rice and blue dye produced by black slaves, the Carolina low country had by 1774 reached a level of aggregate wealth greater than that in many parts of the world even today. The evolution of Charleston, the center of the low-country civilization, reflected not only the growing wealth of the area but also its spirit and soul (Coclanis 1989:7).

Only certain areas of the low country, however, were suitable for rice production. During the early years rice was grown as an upland crop, in small fields adjacent to freshwater streams where water could be easily impounded and applied to the crop. By the early 1700s planters found that upland swamps, such as those in the Goose Creek area, were even better suited for rice, although the soils were quickly exhausted (Meriwether 1940; Sellers 1934). These upland swamps, distinct from well-drained uplands, remained the focus of Carolina rice agriculture during the entire Colonial period.

Hewat, writing in 1779, describes the process of upland swamp rice cultivation:

> after the planter has obtained his tract of land, and built a house upon it, he then begins to clear his field of that load of wood with which the land is covered. Having cleared his field, he next surrounds it with a wooded fence, to exclude all hogs, sheep, and cattle from it. This field he plants with rice . . . year after year, until the lands are exhausted, or yield not a crop sufficient to answer his expectations. Then it is forsaken, and a fresh spot of land is cleared and planted, with is also treated in like manner, and in succession forsaken and neglected (Hewatt 1836:514).

This rather simplistic commentary failed to observe the engineering feat that upland swamp rice cultivation really was. Clearing, which alone was a monumental undertaking, was followed by the construction of dams, dikes, and trenches. By one estimate, a 500 acre rice field required 60 miles of dikes and ditches (Gunn 1976:1-16). Fields were carefully leveled to ensure that they could be completely covered by water. Rice was planted during two periods -- March 10 to April 10 and June 1 to June 10 -- avoiding May since vast migrations of "rice birds" passed through the state during that period and could destroy a crop. Rice was harvested in late August.

By 1730 the majority of the population of the colony, both rural and urban, was black (Wood 1974). By 1850, 46% of Charleston District's population (which included today's Berkeley County) consisted of African American slaves (DeBow 1854:302), although Hilliard (1984:37) indicates that more than 60% of the Charleston slaveholders by 1860 owned fewer than 10 slaves. Regardless, there remained vast plantations where the owner's wealth was achieved by the labor of black slaves.

During the eighteenth century the profits to be gained from rice were extraordinary, ranging from a 12% to nearly 28% net return on the investment, well exceeding other cash crops, such as tobacco or indigo (see Coclanis 1989:141). Charleston was the mecca around which the economic, political, and social world of Carolina revolved. Charleston provided the essential opportunity for conspicuous consumption, a mechanism which allowed the display of wealth accumulated from the plantation system.

By the end of the eighteenth century, beginning of the nineteenth century, the rate of return on rice had been reduced, at best, to about 2%, and many years the rate of return was a staggering -3% to -7%. In 1859, just before the Civil War, the return is reported to have been -28%. As Coclanis observes:

> the economy of the South Carolina low country collapsed in the nineteenth century. Collapse did not come suddenly - many feel, for example, that the area's "golden age" lasted until about 1820 - but come it did nonetheless. By the late nineteenth century it was clear that the forces responsible for the area's earlier dynamism had been routed, the dark victory of economic stagnation virtually complete (Coclanis 1989:111).

The project area appears to be part of Moreland Plantation, historically owned by the Huger and Bennett families. Today it is largely contained within an area of industrial development. In fact, it seems likely that the industrial development which taken place in this portion of Berkeley County over the past 20 years has created the need for the additional substation and resulted in this survey project.

Previous Investigations

There have been a very large number of archaeological studies conducted in the Berkeley County area. Syntheses of many are provided by other researchers, such as Adams (1990) and Anderson et al. (1982). Most recently we have provided a broad overview of the general area (Trinkley 1999). Only a few of the more recent studies will be briefly mentioned in this overview.

Although work in the late 1970s was sporadic and not always of a uniform quality, surveys such as

those conducted by the S.C. Institute of Archaeology and Anthropology at the Grove and Flagg plantations (Hartley and Stephenson 1975) began to reveal the complexity of the historic settlement in the region, while investigations such as that undertaken by Brooks and Scurry (1978) continue to be quoted for its exceptional documentation of prehistoric settlement criteria. The later, for example, reveals that while soil types are good *general* indicator of site probability, there are archaeological sites located on poorly drained soils. This, the authors point out, indicates that factors other than simply drainage, likely played some role in selecting camp sites.

Other studies, undertaken at about the same time, continued to reveal the complexity — and density — of sites in what we are considering as the Cooper River Zone Planning Area. Wood's (1977) examination of a transmission line from Mount Pleasant to the Cooper River area, revealed the diversity of the study area. Her work revealed the presence of both prehistoric (including perhaps contact period) and historic settlements. Although a reconnaissance survey by Lees and Michie (1978) failed to reveal the same density of sites, it nevertheless documented the range of sites that might be expected, suggesting that virtually any development on swamp margins would be likely to impact prehistoric sites.

In the early 1980s Limerick Plantation was also briefly investigated. The plantation, created in 1707, was owned by the Ball family from 1764 until about 1891 (Lees 1980). Investigations concentrated on the main house (Lees 1980) where the architecture of the main house was the focus of the research. Additional effort was devoted to the exploration of the changing settlement pattern at the site. Later, additional research was devoted to nearby sites associated with the plantation. Most of this activity was devoted to the Tanner Road site, where Babson (1988) sought to examine the site's ethnicity and function.

During the mid-1980s Ferguson and Babson (1986) used historic plats to identify the range of plantation sites on the East Branch of the Cooper River. This study revealed about 250 buildings associated with 18 plantations. What is curious is that despite the extraordinary density of the individual settlements examined in this work, archaeologists continue to document only a very small handfull of the structures likely to be present on any plantation complex.

Also during the mid-1980s there were a number of surveys conducted on U.S. Forest Service property in the immediate area. For example, Pasquill (1983) comments on both the ubiquity of tar kiln sites in the area, as well as the occasional identification of small graveyards. This work also reveals issues concerning the fragility of many sites — such as cemeteries — and how often they may be either damaged or destroyed by development activities. Another survey (Pasquill 1984), again reveals how common tar kilns are, although questions regarding eligibility might well be revisited in light of more recent issues concerning historic significance. His research also reveals the range of small prehistoric sites which are typically located on sandy ridges in the ridge and swale topography of the flat woods. Also of interest is the revelation concerning how many sites, both known and unknown, were being impacted by mechanized timber harvesting — providing one of the earliest insights into the rapid destruction of the area's cultural heritage.

One of the few investigations along French Quarter Creek was conducted in 1990 just southeast of the study area. The resources encountered in the examination seem generally typical of the area and included a small tar kiln, a scatter of late nineteenth century remains, as well as a much earlier historic site and a large prehistoric site (Poplin 1990). It seems likely that even where well defined banks overlooking flowing water aren't present, the sandy ridges adjacent to swampy lowlands were attractive to both prehistoric and historic occupation.

Several studies of the property around Nucor Steel were conducted in the mid-1990s (Rust and Poplin 1995a, 1995b, 1995c). One of the most common sites identified continued to be tar kilns. In spite of the large number being encountered — and presumably destroyed by development — only a very few have ever been investigated. Most are dismissed because the sites have been studied in the past, or have produced few artifacts, or have been disturbed by logging. It seems rather important that these sites begin to be more

carefully examined — certainly the sparseness of artifacts is not, by itself, adequate to dismiss the site as insignificant. It is also unlikely to find sites in this part of the low country that haven't been damaged to some degree by logging, so it seem inappropriate to use this feature as the sole criteria. It seems that the real issue is whether the previous investigations — conducted several decades ago — have in fact obtained all the information that can possibly be garnered from these sites.

Other remains found in the area of Nucor's Hagan Point included the remains of Moreland Plantation, as well as a broad range of Archaic and Woodland prehistoric sites. The plantation site included structural remains, a brick kiln, landing and wharf remains, as well as several underwater archaeological sites (Rust and Poplin 1995a).

The Cooper River Historic District, developed by Historic Charleston Foundation in conjunction with SCDAH, is an extremely diverse collection of cultural resources associated with approximately 45 miles of the Cooper River. The proposed district, covering around 80,000 acres, has not been listed on the National Register, but has been determined eligible by the State Historic Preservation Officer.

The National Register nomination for the Cooper River District observes that:

> This 150 square mile area includes more than 70,000 acres. Within its bounds lay the oldest rural dwellings in South Carolina, a vast concentration of archaeological sites, and an agricultural and industrial history that serves as a paradigm for the development of the entire Lowcountry of South Carolina. The proposed Cooper River Historic District is a smaller area of the whole, which includes 164 above-ground historic sites/resources and 81 archaeological sites which contribute directly to this nomination.
>
> This largely intact collection of buildings, sites, structures, objects and landscape features have been and continue to be associated with the river itself and illustrate the continuing use and occupation of the area from the early settlement patterns of the late seventeenth century (ca. 1680) to the changing uses of the landscape in the early decades of the twentieth century (ca. 1940). The agricultural character of the region from naval stores to rice and indigo and later to hunting and tree farming was imposed on the natural setting and in turn produced a unique cultural landscape through the period of significance. The Cooper River Historic District meets all of the National Register criteria and is significant as a natural, historical and cultural landscape (Saunders and Poston 1998).

As such the district is of concern not only because of its size, but also because such districts can be impacted by a broad range of development pressures. Moreover, development activities should also examine what impact they will have on the landscape itself, rather than simply on the resources as physical entities.

METHODS AND RESULTS

Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100 foot intervals along the centerline of the corridor. Only one transect, running down this centerline, was proposed since the corridor is only about 50 feet wide and the centerline was staked. In areas of standing water or wetlands no shovel tests would be excavated.

All soil would be screened through ¼ inch mesh, with each test numbered sequentially. Each test would measure about 1 foot square and would normally be taken to a depth of at least 1 foot. All cultural remains would be collected, except for shell, mortar, and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of one or more artifacts from either surface survey or shovel tests within a 25 feet area) be identified by shovel testing, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 feet intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators.

This strategy was implemented with only one significant change. Given the short length of the corridor — about 400 feet — we chose to excavate shovel tests at 50 feet intervals, rather than the proposed 100 foot intervals. As a result a series of nine shovel tests were excavated during the study, with all of the tests placed on the southwest side of Moreland Road (Figure 5). The final shovel tests would have fallen in the existing road, which is graveled and heavily compacted and in the road berm, which had the upper 0.5 foot stripped as part of the construction of the new substation. Consequently neither of these tests were excavated.

Results

Although the project is within the proposed Cooper River National Register district, there are no historic or archaeological sites previously identified within or immediately adjacent to the proposed transmission line.

We found that the shovel tests at the southwest end of the corridor were all within wetlands and produced very wet soils — typically with water in the upper 0.8 foot of the profile. These tests, while excavated, were not screened, although the soil was examined with a trowel. These areas do not seem appropriate for either prehistoric or historic occupation and no evidence of cultural remains were identified.

The remaining two thirds of the corridor revealed drier soil, although the profiles were still moist and the soils contained abundant clay which was difficult to screen. Nevertheless, they were forced through a ¼-inch screen although no archaeological remains were encountered.

During this survey we drove Moreland Road for about 0.25 mile on either side of the corridor. There were no structures or sites which appeared to be 50 or more years old. Moreover, the previous research by Historic Charleston Foundation failed to identify any sites in the immediate area. There are, of course, historic sites within several miles of the proposed undertaking, such as the St. Thomas and St. Denis Church Complex (Site 24.01 - 24.06).

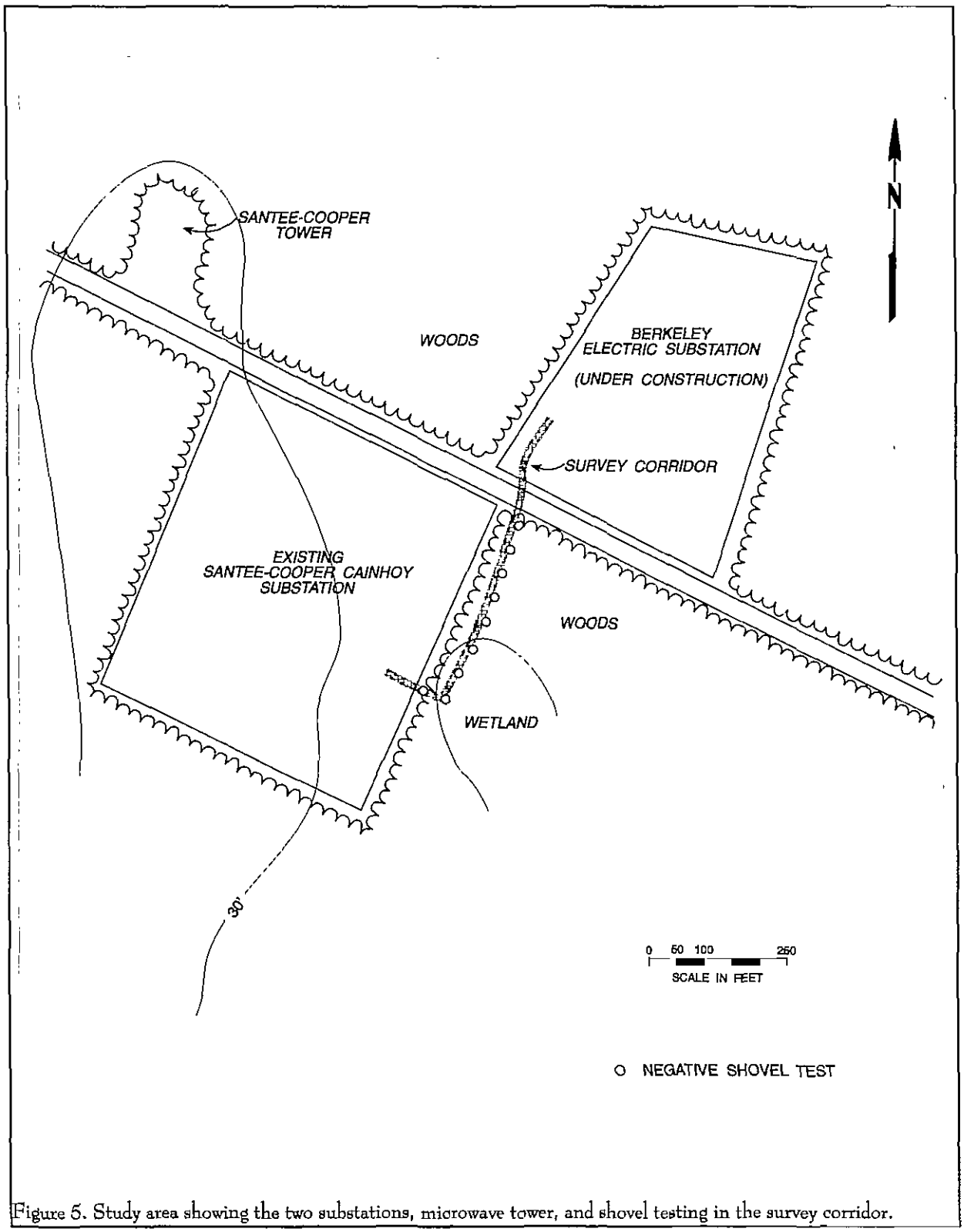

Figure 5. Study area showing the two substations, microwave tower, and shovel testing in the survey corridor.

There is no question that the expansion of electrical service facilities is associated with economic development in the project area. Nevertheless, this project involves only tying two substations, one already in existence and another under construction, together. It does not, in other words, permit any expansion or development beyond that already permitted by the two substations.

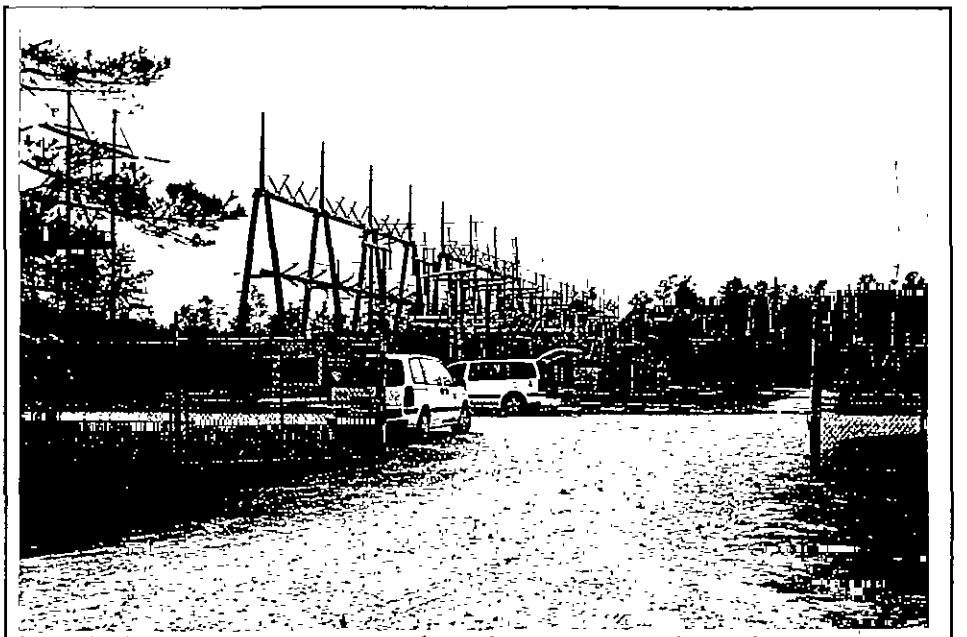

Figure 6. Existing Santee-Cooper Cainhoy substation, view to the southwest.

In addition, the proposed project will have virtually no impact on the area's landscape. In fact, the short transmission line corridor will be "lost" among the far more obvious landscape features of the substations and nearby microwave tower (Figures 6 and 7).

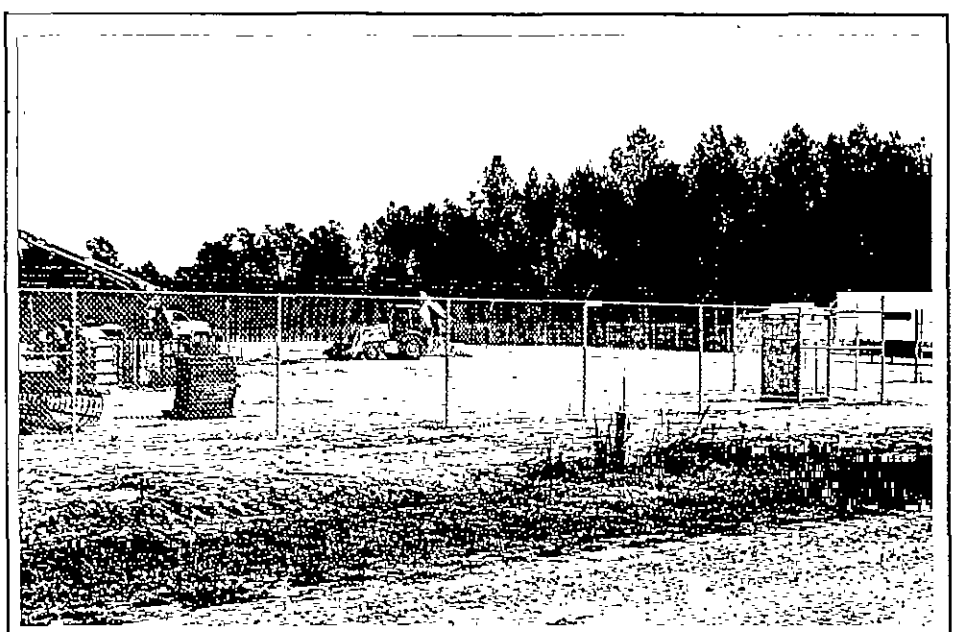

Figure 7. Area of new substation under construction, view to the northeast.

SUMMARY AND RECOMMENDATIONS

The Central Electric Power Cooperative survey corridor is situated in the lower Coastal Plain in southwest Berkeley County. The line runs from the existing Santee Cooper Cainhoy Substation to the new Berkeley Electric Cooperative substation, currently under construction, a distance of about 400 feet. The survey corridor consists of woods, the two existing substations, and the intervening dirt road. This corridor, about 50 feet in width, was investigated using a single line of shovel tests placed at 50 foot intervals. The only area not subjected to shovel testing were the existing substations and Moreland Road. The survey found the wooded tract to be generally low and heavily impacted by previous logging. In addition, at least one wetland was crossed by the line, although all of the shovel tests revealed generally moist to wet soils, often with a clay subsoil.

The corridor is situated in an area of extensive previous research and a number of archaeological sites have been identified in the vicinity. In addition, the study corridor is within the proposed Cooper River National Register district, which includes a number of historic and architectural sites.

No archaeological sites were encountered during the shovel testing. The absence of sites is likely the result of the low, wet soils, although clearly the study corridor is very short and this dramatically reduces the potential for archaeological remains.

Examination of the nearby road sides also failed to identify any structures or sites which appeared to be 50 or more years old. The project area appears to be within a relatively low and little utilized portion of Moreland plantation.

It is unlikely that the proposed transmission line will have any affect on the proposed district since it only joins two substations — one of which has been constructed and operational for a number of years. The other substation has just recently been clear and graded and construction has begun on tower bases. In addition, there is nearby a 100+ foot tall microwave tower that further dominates the immediate landscape.

As a result, we recommend no additional cultural resource management activities at this project, pending review and concurrence by the State Historic Preservation Office.

It is possible that archaeological remains may be encountered in the corridor during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the South Carolina State Historic Preservation Office or to Chicora Foundation. No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist.

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